

In The Claims

Kindly enter the claim amendments, without prejudice, as set forth below. A complete listing of the claims is provided, with a parenthetical indication of the status of each claim, and markings to show current changes.

1. (currently amended) A system for the cross-correlation of data, comprising:
a plurality n of computers PC_i , n being a real number which is equal to or greater than 2, and i being an integer from 0 to $n-1$;
wherein said plurality n of computers PC_i are communicably coupled via a connector with a switch;
each of said plurality n of computers PC_i further including a storage device configured for storing data X_i ;
data X_i being divisible into n partial data units $X_i(j)$, j being an integer from 0 to $n-1$;
data X_i being divisible into n partial data units $X_i(k)$, k being an integer from 0 to $n-1$;
a computer PC_k , wherein computer PC_k is configured for cross-correlation processing of partial data $X_i(k)$;
wherein each computer PC_i of said plurality n is configured ~~to~~ for a first exchange of a partial data- unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PC_i is idle during said first exchange; and
wherein each computer PC_i of said plurality n is configured ~~to~~ for an additional exchange of additional partial data units with a partner computer chosen from said plurality n of computers, so that no more than one computer PC_i is idle during said additional exchange.
2. (previously presented) The system of claim 1, wherein each computer PC_i of said plurality n is configured to exchange with a partner computer $n-1$ partial data units when n is even, and n partial data units when n is odd.
3. (currently amended) A system for the cross-correlation of data, comprising:
a plurality n of computers PC_i , n being a real number which is equal to or greater than 2,

and i being an integer from 0 to $n-1$;

wherein said plurality n of computers PC_i are communicably coupled via a connector configured for full duplex transmission and configured for a switching function;

each of said plurality n of computers PC_i further including a storage device configured for storing data X_i ;

data X_i being divisible into n partial data units $X_i(j)$, j being an integer from 0 to $n-1$;

data X_i being divisible into n partial data units $X_i(k)$, k being an integer from 0 to $n-1$;

a computer PCK , wherein computer PCK is configured for cross-correlation processing of partial data $X_i(k)$;

wherein each computer PC_i of said plurality n is configured ~~to~~ for partner exchange of $n-1$ partial data units with a partner computer, so that no more than one computer PC_i is left idle during the partner exchange; and

wherein each computer PC_i of said plurality is configured to exchange partial data units with each partner computer once.

4. (currently presented) A system for the cross-correlation of data, comprising:

a plurality n of computers PC_i , n being a real number which is equal to or greater than 2, and i being an integer from 0 to $n-1$;

wherein said plurality n of computers PC_i are communicably coupled via a connector with a switch;

each of said plurality n of computers PC_i further including a storage device configured for storing data X_i ;

data X_i being divisible into n partial data units $X_i(m)$, m being an integer from 0 to $n-1$;

data X_i being divisible into n partial data units $X_i(k)$, k being an integer from 0 to $n-1$;

a computer PCK , wherein computer PCK is configured for cross-correlation processing of partial data $X_i(k)$;

wherein each computer PC_i of said plurality n is configured ~~to~~ for partner exchange of a partial data- unit with a partner computer chosen from said plurality n of computers, so that no more than one computer is left idle during the partner exchange; and

wherein each computer PC_i of said plurality n is configured to exchange additional partial data units with a partner computer chosen from said plurality n of computers.

5. (previously presented) The system of claim 4, comprising an α turn, α being an integer of 0 and more, wherein the α turn includes partial data units, numbering from $n \times \alpha$ to $(n \times \alpha + n - 1)$, and comprising partial data unit $X_i(k + n \times \alpha)$, the partial data unit $X_i(k + n \times \alpha)$ being located on each computer PC_i, wherein the computer PC_k is configured for the cross correlation processing of partial data unit $X_i(k + n \times \alpha)$.

6. (currently amended) A system according to claims 4 or 5,
wherein each computer PC_i of said plurality n is configured ~~to~~ for partner exchange of n-1 partial data units with a partner computer, so that no computer is left idle, when n is an even number; ~~and~~

wherein each computer PC_i of said plurality n is configured for partner exchange of n partial data units with a partner computer, so that no more than one computer is left idle, when n is an odd number; and

wherein each computer PC_i of said plurality is configured to exchange partial data units with each partner computer once.

7. (currently amended) A system for the cross-correlation of data, comprising:
a plurality n of computers PC_i, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

wherein said plurality n of computers PC_i are communicably coupled via a connector with a switch;

each of said plurality n of computers PC_i further including a storage device configured for storing data X_i;

data X_i being divisible into n partial data units X_i(m), m being an integer from 0 to n-1;

data X_i being divisible into n partial data units X_i(k), k being an integer from 0 to n-1;

a computer PC_k, wherein computer PC_k is configured for cross-correlation processing of

partial data $X_i(k)$;

wherein each computer PC_i of said plurality n is configured to ~~be~~ for partner exchange of a partial data unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PC_i is left idle during the partner exchange;

wherein each computer PC_i of said plurality n is configured to exchange $n-1$ partial data units with a partner computer; and

wherein each computer PC_i of said plurality is configured to exchange partial data units with each partner computer once.

8. (previously presented) A system as in any one of the preceding claims, in which the computers PC_i of said plurality n are general purpose computers.

9. (previously presented) A system as in any one of the preceding claims, comprising a network medium configured for full duplex communications.

10. (previously presented) A system as in any one of the preceding claims, in which said data are time series data recorded from radio telescopes.

11. (currently amended) A system for the cross-correlation of data, comprising:

a plurality n of computers PC_i , n being a real number which is equal to greater than 2, and i being an integer from 0 to $n-1$;

wherein said plurality n of computers PC_i are communicably coupled via a connector with a switch;

each of said plurality n of computers PC_i further including a storage device configured for storing data X_i ;

data X_i being divisible into n partial data units $X_i(j)$, j being an integer from 0 to $n-1$;

data X_i being divisible into n partial data units $X_i(k)$, k being an integer from 0 to $n-1$;

a computer PC_k , wherein computer PC_k is configured for cross-correlation processing of partial data $X_i(k)$; and

wherein each computer PC_i of said plurality n is configured ~~to~~ for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PC_i is left idle during the partner exchange.

12. (currently amended) A system for the cross-correlation of data, comprising:

a plurality n of computers PC_i , n being a real number which is equal to or greater than 2, and i being an integer from 0 to $n-1$;

wherein said plurality n of computers PC_i are communicably coupled via a connector with a switch;

each of said plurality n of computers PC_i further including a storage device configured for storing data X_i ;

data X_i being divisible into n partial data units $X_i(m)$, m being an integer from 0 to $n-1$;

data X_i being divisible into n partial data units $X_i(k)$, k being an integer from 0 to $n-1$;

a computer PC_k , wherein computer PC_k is configured for cross-correlation processing of partial data $X_i(k)$; and

wherein each computer PC_i of said plurality n is configured ~~to~~ for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PC_i is left idle during the partner exchange.; ~~and~~

13. (currently amended) A system for the cross-correlation of data, comprising:

a plurality n of computers PC_i , n being a real number which is equal to or greater than 2, and i being an integer from 0 to $n-1$;

wherein said plurality n of computers PC_i are communicably coupled via a connector with a switch;

each of said plurality n of computers PC_i further including a storage device configured for storing data X_i ;

data X_i being divisible into n partial data units $X_i(j)$, j being an integer from 0 to $n-1$;

data X_i being divisible into n partial data units $X_i(k)$, k being an integer from 0 to $n-1$;

a computer PC_k , wherein computer PC_k is configured for cross-correlation processing of

partial data $X_i(k)$;

wherein each computer PC_i of said plurality n is configured to ~~be~~ for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PC_i is left idle during the partner exchange; and

wherein each computer PC_i of said plurality n is configured to exchange $n-1$ partial data units with a partner computer; and

wherein each computer PC_i of said plurality is configured to exchange partial data units with each partner computer once.

14. (currently amended) A system for the cross-correlation of data, comprising:

a plurality n of computers PC_i , n being a real number which is equal to or greater than 2, and i being an integer from 0 to $n-1$;

wherein said plurality n of computers PC_i are communicably coupled via a connector with a switch;

each of said plurality n of computers PC_i further including a storage device configured for storing data X_i ;

data X_i being divisible into n partial data units $X_i(j)$, j being an integer from 0 to $n-1$;

data X_i being divisible into n partial data units $X_i(k)$, k being an integer from 0 to $n-1$;

a computer PC_k , wherein computer PC_k is configured for cross-correlation processing of partial data $X_i(k)$;

wherein each computer PC_i of said plurality n is configured to ~~be~~ for partner exchange of a partial data -unit with a partner computer chosen from said plurality n of computers, so that no more than one computer PC_i is left idle during the partner exchange;

wherein each computer PC_i of said plurality n is configured to exchange $n-1$ partial data units with a partner computer; and

wherein each computer PC_i of said plurality is configured to exchange partial data units with each partner computer once.

15. (previously presented) A system as in one of claims 11-14, comprising a network

medium configured for full duplex communications.

16. (new) The system of claim 1, wherein n is an odd number.
17. (new) The system of claim 1, wherein $n = 2^k + 1$, wherein k is an integer greater than 0.
18. (new) The system of claim 1, wherein $n = 2^k - 1$, wherein k is an integer greater than 0.